In the Claims:

Kindly substitute the following for pending Claim 1:

1. An antenna for an equatorial satellite constellation for use on a commercial satellite terminal, comprising:

a generally circular rotating plate for mechanically scanning for wave signals in the azimuth direction;

a plurality of radiation elements positioned on said circular plate for electronically scanning for wave signals in elevation; and

a multiplexor associated with each of said plurality of radiation elements for consolidating the individual wave signals received at each of said plurality of radiation elements to an analog bit stream;

an analog to digital converter for converting said analog bit stream to a digital bit stream;

circuitry for forming multiple digital beams from said digital bit stream; and

a digital receiver for converting said digital beamforms into an information signal.

Kindly substitute the following for pending Claim 6:

6. The antenna of Claim 1, wherein said radiation elements form multiple beams for communicating with a plurality of satellites in an equatorial satellite constellation.

Kindly substitute the following for pending Claim 7:

7. A phased array antenna for an equatorial satellite constellation, comprising:

a rotating plate for mechanically scanning for a wavefront of wave signals in an azimuth direction;

a plurality of radiation elements positioned on said rotating plate for receiving a plurality of individual waves;

apparatus for positioning said radiation elements such that a wavefront of an intended signal will be in alignment with a major axis of said plurality of radiation elements;

a plurality of multiplexer devices, each in communication with one of said plurality of radiation elements for converting said plurality of received individual waves into an analog bit stream;

an analog to digital converter for converting said analog bit stream to a digital bit stream;

a device for forming multiple digital beam forms from said digital bit stream; and

a digital receiver for processing said multiple digital beams.

Kindly substitute the following for pending Claim 9:

9. The antenna of claim 7, wherein said antenna transmits said multiple digital beams to a plurality of satellites in the equatorial satellite constellation.

Kindly substitute the following for pending Claim 13:

13. A method for forming multiple beams at a commercial satellite antenna comprising:

providing a plurality of radiation elements on a surface of said commercial satellite antenna for receiving a plurality of individual wave signals;

rotating said plurality of radiation elements such that a wavefront of said plurality of individual wave signals is in alignment with a major axis of said plurality of radiation elements;

consolidating said plurality of wave signals into a single analog signal;

forming multiple beam forms from said single analog signal; and

transmitting said multiple beam forms to a plurality of satellites in an equatorial satellite constellation.

Kindly add the following additional claims:

21. A phased array antenna for an equatorial satellite constellation, comprising:

a rotating plate for electrically scanning for a wavefront of wave signals in elevation and for mechanically scanning for said wavefront of wave signals in an azimuth direction;

a plurality of elongated radiation elements positioned on said rotating plate for receiving a plurality of individual waves, each of said plurality of radiation elements having a major axis and a minor axis;

apparatus associated with each of said plurality of radiation elements for consolidating the wave signals received at each of said plurality of radiation elements into a first bit stream; and

a multiple beam former for forming multiple beams from said first bit stream.

22. The antenna of Claim 21, further comprising:

a converter for converting said first bit stream from an analog bit stream to a digital bit stream, which digital bit stream is received by said multiple beam former.

23. The antenna of Claim 21, wherein each of said plurality of elongated radiation elements are cross-slotted waveguides, which are aligned parallel to one another on the antenna.

24. The antenna of Claim 23, wherein each of said plurality of radiation elements includes a slotted septum therein.

25. The antenna of Claim 21, wherein the antenna may be utilized on a mobile vehicle.

26. The antenna of Claim 21, wherein said apparatus for consolidating the wave signals is a multiplexer.

27. The antenna of Claim 26, wherein said multiplexer is a code division multiplexer.

28. The antenna of Claim 21, wherein the antenna is configured with a low profile.

29. The antenna of Claim 21, wherein the antenna is in communication with a commercial satellite terminal.

30. A method of communicating with an equatorial satellite constellation, comprising:

providing a plurality of generally planar radiation elements on a surface of a commercial satellite antenna;

rotating said satellite antenna such that a wavefront of a plurality of individual wave signals is in alignment with a major axis of said plurality of radiation elements;

consolidating said plurality of wave signals into a single bit stream;

forming multiple beam forms from said single bit stream; and

transmitting said multiple beam forms to a plurality of satellites in the equatorial satellite constellation.

31. The method of Claim 30, further comprising:

mechanically scanning a field of view for said wave signals in azimuth.

32. The method of Claim 31, further comprising:

electronically scanning said field of view for said wave signals in elevation.

33. The method of Claim 30, further comprising:

converting said single signal to a digital bit stream; and

forming multiple digital beam forms from said digital bit stream.

34. The method of Claim 33, further comprising:

utilizing FFT techniques to form said multiple digital beam forms to provide for satellite retrodirectivity.

35. The method of Claim 31, further comprising:

providing seamless handover from one satellite to another without interruption.

36. The method of Claim 31, further comprising:

monitoring signal strength from adjacent received individual wave signals in order to track other satellites in the equatorial satellite constellation.

37. A commercial satellite terminal for an equatorial satellite constellation comprising:

an antenna including,

a generally circular rotating plate for mechanically scanning for wave signals in the azimuth direction;

a plurality of elongated radiation elements positioned generally parallel to one another on said circular plate for electronically scanning for wave signals in elevation;

a multiplexer associated with each of said plurality of radiation elements for consolidating the individual wave signals received at each of said plurality of radiation elements to a first bit stream; and

a multiple beam former for forming multiple beams from said first bit stream.

REMARKS

The Examiner has objected to the disclosure because of various informalities in the title, specification and claims. The Examiner objected to various informalities in figure 4. The Examiner rejected claims 1, 2, 4-11 and 13-20 under 35 U.S.C. §103(a) as obvious over *Miura, et al* in view of *Chang, et al* and *Barrett, et al*. The Examiner also rejected claims 3 and 12 under 35 U.S.C. §103(a) as being unpatentable over *Miura, et al* in view of *Chang, et al* and *Barrett, et al* as applied to claims 1 and 11 above and further in view of *Ajioka*.

The Informality Objections As To The Disclosure:

The Examiner objected to various informalities in the title, specification and claims as the term "equitorial" was misspelled. Accordingly, the title, specification and claims have been corrected to reflect the proper spelling of equatorial. Additionally, the Examiner objected to the use of the terms emphamerie and hadema code on page 14 of the specification